

CLAIMS

what is claimed is:

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01 1. A method of loading content to a server in anticipation of a need for the content by network clients, the method comprising:

(a) determining the location of a client or group of clients that are likely to access the content;

(b) determining a first proximity between the client or group of clients and a first server capable of storing and serving the content;

10 (c) determining a second proximity between the client or group of clients and a second server capable of storing and serving the content; and

(d) based upon the relative values of the first and second proximities, loading the content into one of the first and second servers.

15 2. The method of claim 1, wherein loading the content to the second server is performed automatically by a content control system on the network.

3. The method of claim 2, wherein performing (b), (c), and (d) is accomplished by the content control system.

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4. The method of claim 1, wherein the first and second proximities are determined dynamically by a content control system.

25 5. The method of claim 1, wherein the content is loaded to the server that is most proximate the client or group of clients.

6. The method of claim 1, wherein the content is multimedia content.

30 7. The method of claim 6, wherein the multimedia content is transmitted over the network in a compressed format.

8. The method of claim 1, wherein the content is video content.

35 9. The method of claim 1, wherein at least one of the first and second proximities is determined by a combination of the following factors: bandwidth, number of hops, congestion, noise and loss on a network segment, and charges incurred to send.

10. The method of claim 1, wherein at least one of the first and second proximities is determined by a considering whether the server and the client or group of clients are on the same sub-network.

11. The method of claim 10, wherein content is loaded to the second server when the second server and the client or clients are on the same sub-network and the first server and the client or clients are not on the same sub-network.

12. The method of claim 1, further comprising:
determining a first loading proximity between a source of the content and the first server;

determining a second loading proximity between a source of the content and the second server; and

using the first and second loading proximities together with the first and second proximities to determine which of the first and second servers should receive the content.

13. A method of loading content to a server in anticipation of a need for the content by network clients, the method comprising:

(a) determining the location of a client or group of clients that are likely to access the content;

(b) determining the relative proximities of (i) the client or group of clients to a first server capable of storing and serving the content and (ii) the client or group of clients and a second server capable of storing and serving the content; and

(c) based upon the relative proximity, loading the content into one of the first server and the second server.

14. A method of loading content to a server in anticipation of need by network clients, the method comprising:

(a) determining the location of a client or group of clients that require access to the content;

(b) identifying a first server currently storing the content and serving the client's requirements for access to the content;

(c) identifying a second server that does not currently store said content but that has the capability of storing and serving the content;

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- (d) determining a first proximity between the first server and the client or group of clients;
- (e) determining a second proximity between the second server and the client or group of clients; and
- (f) if the relative values of the first and second proximities meet a defined constraint, loading the content to the second server.

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15. The method of claim 14, wherein (d) includes determining whether the server and the client or group of clients are on the same sub-network.

16. A method of selecting a server to fill a client request for content, the method comprising:

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- (a) determining that one or more clients needs or will need to receive the content;
- (b) determining a first proximity between the one or more clients and a first server capable of supplying the content;
- (c) determining a second proximity between the one or more clients and a second server capable of supplying the content; and
- (d) based upon the relative values of the first and second proximities, choosing one of the first and second servers to fill client requests for the content.

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17. The method of claim 16, wherein the first and second proximities are determined dynamically by a content control system.

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18. The method of claim 16, wherein the content is provided by the server that is most proximate to the one or more of clients.

19. The method of claim 16, wherein the content is multimedia content.

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20. The method of claim 16, wherein at least one of the first and second proximities is determined by a combination of the following factors: bandwidth, number of hops, congestion, noise and loss on a network segment, and charges incurred to send.

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21. The method of claim 16, wherein the first proximity is determined by a considering whether the first server and the one or more clients are on the same sub-network.

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22. The method of claim 21, wherein content is provided by the first server when the first server and the one or more clients are on the same sub-network and the second server and the one or more clients are not on the same sub-network.

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23. A method of releasing stored content items from a server to make room for new content items, the method comprising:

(a) identifying, on the server, a first stored content item and a second stored content item;

10 (b) determining a first proximity between the server and a source of the first stored content item;

(c) determining a second proximity between the server and a source of the second stored content item; and

(d) releasing one of the first and second stored content items based upon the relative values of the first and second proximities.

15 24. The method of claim 23, wherein at least one of the sources of the first and second stored content items is a content library.

20 25. The method of claim 23, wherein the stored content items are video content items.

26. The method of claim 23, wherein the first and second stored content items are identified based upon a cache release protocol.

25 27. The method of claim 26, wherein the cache release protocol is a Least Recently Used algorithm.

28. The method of claim 23, wherein at least one of the first and second proximities is determined by a combination of the following factors: bandwidth, number of
30 hops, congestion, noise and loss on a network segment, and charges incurred to send.

29. A content control system for propagating content on a network, the content control system comprising:

an interface to the network; and

35 a processor and a memory coupled to said processor, the processor and memory configured or designed to determine proximities of network nodes to one another and to propagate content to one of said nodes based upon a proximity determination.

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30. The content control system of claim 29, wherein the interface, processor, and memory are provided on a router.

31. The content control system of claim 29, wherein the interface, processor, and memory are provided on a PC or workstation.

32. The content control system of claim 29, further comprising an operating system.

33. The content control system of claim 29, further comprising a video server running on the operating system.

34. The content control system of claim 29, further comprising a mass storage device capable of storing content and a mass storage controller capable of controlling access to content stored in the mass storage device.

35. The content control system of claim 29, further comprising one or more proximity determining tools.